

-continued

Leu Gln His Asn Lys Cys Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg  
 100 105 110

Gln Glu Asn  
 115

1. A monoclonal antibody against VEGF, or an antigen-binding fragment thereof, that binds to a vascular endothelial growth factor (VEGF), comprising:

CDR-H1 that comprises the amino acid sequence of SEQ ID NO: 14, CDR-H2 that comprises the amino acid sequence of SEQ ID NO: 16, and CDR-H3 that comprises the amino acid sequence of SEQ ID NO: 18; and CDR-L1 that comprises the amino acid sequence of SEQ ID NO: 20, CDR-L2 that comprises the amino acid sequence of Trp-Ala-Ser, and CDR-L3 that comprises the amino acid sequence of SEQ ID NO: 22.

2. The monoclonal antibody, or the antigen-binding fragment thereof, according to claim 1, wherein the monoclonal antibody inhibits binding of a vascular endothelial growth factor (VEGF) to at least one receptor selected from the group consisting of vascular endothelial growth factor receptor-1 (VEGFR1) and vascular endothelial growth factor receptor-2 (VEGFR2).

3. The monoclonal antibody, or the antigen-binding fragment thereof, according to claim 1, wherein the monoclonal antibody is a chimeric antibody, a humanized antibody, or a caninized antibody.

4. The antibody, or the antigen-binding fragment thereof, according to claim 1, further comprising a heavy chain constant region comprising an amino acid sequence derived from a human IgG1 heavy chain constant region and a light chain constant region comprising an amino acid sequence derived from a human IgG1 light chain constant region.

5. The antibody, or the antigen-binding fragment thereof, according to claim 4, wherein the amino acid sequence derived from a human IgG1 heavy chain constant region comprises the amino acid sequence of SEQ ID NO: 42, and the amino acid sequence derived from a human IgG1 light chain constant region comprises the amino acid sequence of SEQ ID NO: 44.

6. The antibody, or the antigen-binding fragment thereof, according to claim 5, comprising:

a heavy chain that comprises the amino acid sequence of SEQ ID NO: 34, and the amino acid sequence of SEQ ID NO: 42; and

a light chain that comprises the amino acid sequence of SEQ ID NO: 36, and the amino acid sequence of SEQ ID NO: 44.

7. The antibody, or the antigen-binding fragment thereof, according to claim 1, further comprising a heavy chain constant region comprising an amino acid sequence derived from a canine IgGB heavy chain constant region and a light chain constant region comprising an amino acid sequence derived from a canine Ig light chain ( $\kappa$  chain) constant region or a canine Ig light chain ( $\lambda$  chain) constant region.

8. The antibody, or the antigen-binding fragment thereof, according to claim 7, wherein an amino acid sequence derived from a canine IgGB heavy chain constant region comprises the amino acid sequence of SEQ ID NO: 46, an

amino acid sequence derived from a canine Ig light chain ( $\kappa$  chain) constant region comprises the amino acid sequence of SEQ ID NO: 48, and an amino acid sequence derived from a canine Ig light chain ( $\lambda$  chain) constant region comprises the amino acid sequence of SEQ ID NO: 50.

9. The antibody, or the antigen-binding fragment thereof, according to claim 8, comprising:

a heavy chain that comprises the amino acid sequence of SEQ ID NO: 34 and the amino acid sequence of SEQ ID NO: 46; and

a light chain that comprises the amino acid sequence of SEQ ID NO: 36 and the amino acid sequence of SEQ ID NO: 48 or 50.

10. The antigen-binding fragment according to claim 1, wherein the antigen-binding fragment is a single-chain antibody or a double-chain antibody.

11. A hybridoma that produces the monoclonal antibody according to claim 1.

12. A pharmaceutical composition comprising the monoclonal antibody, or the antigen-binding fragment thereof, according to claim 1; and a pharmaceutically acceptable carrier.

13. A kit comprising the monoclonal antibody, or the antigen-binding fragment thereof, according to claim 1; and a buffer, an enzyme solution, a secondary antibody, a solution for dilution, and/or instructions.

14. A method for treating a VEGF-mediated cancer or a VEGF-mediated eye disease in a subject in need thereof, comprising a step of administering a therapeutically effective amount of the antibody, or the antigen-binding fragment thereof, according to claim 1 to the subject.

15. The method according to claim 14, wherein the therapeutically effective amount inhibits angiogenesis or vascular hyperpermeability.

16. The method according to claim 15, wherein the angiogenesis is pathological angiogenesis.

17. The method according to claim 14, wherein the cancer is a solid cancer.

18. The method according to claim 14, wherein the cancer is selected from the group consisting of colorectal cancer, rectal cancer, breast cancer, non-small-cell lung cancer, non-Hodgkin's lymphoma (NHL), renal cell cancer, prostate cancer, liver cancer, pancreas cancer, soft tissue sarcoma, Kaposi's sarcoma, carcinoid tumor, head and neck cancer, melanoma, ovarian cancer, and mesothelioma.

19. The method according to claim 14, wherein the VEGF-mediated eye disease is at least one selected from age-related macular degeneration, diabetic retinopathy, diabetic macular edema, neovascular glaucoma, retinal vein occlusion, retinopathy of prematurity, choroidal neovascularization associated with pathological myopia, pterygium, rubeosis, pannus, Stevens-Johnson syndrome, and an immunological rejection in a transplanted tissue of the eye.

20. The monoclonal antibody, or an antigen-binding fragment thereof, of claim 1, comprising a heavy chain com-